

# Prevalence of musculoskeletal disorders in firefighters and its association with insomnia

Mahnaz Abbasi<sup>a</sup>, Shabnam Jalilolghadr<sup>b</sup>, Mahdi Soltanabadi<sup>c</sup> and Zohreh Yazdi<sup>d</sup>

<sup>a</sup>Rheumatology, Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

<sup>b</sup>Fellowship in Sleep Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

<sup>c</sup>Department of Basic Sciences, Islamic Azad University of Medical Sciences, Qazvin, Iran

<sup>d</sup>Department of Occupational Medicine, Social Determinant of Health Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

## ABSTRACT:

Musculoskeletal disorders (MSDs) are among the main underlying reasons for decreased productivity at workplace. Awkward working posture, forceful movements, and unexpected events are main reasons for high prevalence of MSDs in firefighters. According to previous research, there is a significant contribution between MSDs and other co-morbidities such as insomnia. The present study aimed to evaluate the prevalence of MSDs in firefighters and its relation with severity of insomnia. A cross-sectional study was conducted on firefighters in Qazvin. Demographic information was collected for the participants. A self-administered questionnaire including Nordic question, body map, and insomnia severity index were completed by the firefighters. Descriptive statistics, Student's t-test, and Chisquare test were used for data analysis. One hundred and eighteen firefighters participated in this study. The prevalence of MSDs was 54.2% amongst the firefighters, and low back pain was the most common complaint with 30.5%. The highest intensity of pain was in the middle of lumbar region. About 20.3% of firefighters had subclinical insomnia, and 30% of them had moderate to severe insomnia. Severity of insomnia was significantly more in subjects with MSDs ( $12.4 \pm 7.9$ ) compared to those without MSDs ( $7.1 \pm 6.6$ ) ( $p < .05$ ). Among different parts of body, significant association was solely found between back pain and severity of insomnia. The results showed that MSDs, especially around the lumbar region is associated with the severity of insomnia in firefighters. In addition, the prevalence of MSDs and insomnia was significantly higher in firefighters compared to similar studies in general population which calls for preventive activities.

## KEYWORDS

Musculoskeletal; firefighter; insomnia